NATIONAL INSTITUTES OF HEALTH

Clinical Research Training Program for Medical and Dental Students

A PUBLIC–PRIVATE PARTNERSHIP SUPPORTED JOINTLY BY THE NIH AND A GRANT TO THE FOUNDATION FOR NIH FROM PFIZER INC

"I cannot imagine a better place to pose a question at a patient's bedside and then to search for the answer in the laboratory."

ANGELA CHANG
David Geffen School of Medicine, University of California, Los Angeles

"AS WE REENGINEER THE CLINICAL RESEARCH ENTERPRISE AT THE NIH, I LOOK TO THE MEDICAL STUDENTS IN A PROGRAM LIKE THE CRTP TO BECOME THE LEADERS WHO WILL RESHAPE AND ENERGIZE OUR NATIONAL VISION FOR CLINICAL RESEARCH IN THE FUTURE."

ELIAS A. ZERHOUNI, M.D.
Director, National Institutes of Health

On the cover: CESAR CASTRO, *University of California, San Francisco, School of Medicine* and PORCIA BRADFORD, *Duke University School of Medicine*

An environment where you can ask challenging medical questions . . . and get the answers.

The Clinical Research Training Program (CRTP) is a 12-month program designed to attract the most creative, research-oriented medical and dental students to the intramural campus of the National Institutes of Health in Bethesda, Maryland. Participants, known as fellows, spend a year engaged in a mentored clinical or translational research project in an area that matches their personal interests and goals.

An individualized program is developed for fellows, who attend clinics, see patients on the wards, and work with a principal investigator in our laboratories on selected clinical research projects. Fellows learn about translational research, that first step from the bench to the bedside and back to the bench; they attend lectures on clinical research; and they participate in an interactive, group learning experience with the members of the class and leading NIH physicians and scientists.

Fellows can remain at NIH for a second year, depending on support of the sponsoring NIH institute, availability of funds, and permission from the student's home institution.

THE NIH CAMPUS

The intramural campus of the National Institutes of Health is situated on 317 acres in Bethesda, Maryland, on the outskirts of Washington, DC. More than 50 buildings are dedicated to the biomedical research enterprise, including the NIH Clinical Center, a 242-bed hospital. It is the largest hospital in the world devoted exclusively to the care of patients on active clinical research protocols and home to inpatient units, day hospitals, and research laboratories. The Clinical Center offers an unparalleled environment for advancing clinical science and providing compassionate and healing patient-care. There are about 1,300 active research protocols currently under way.

THE ACADEMIC PROGRAM

The emphasis of the academic components of CRTP, in addition to the mentored clinical research experience in clinics and laboratories, is on interactive, small-group learning. Fellows collaborate closely with one another and with leading clinical investigators on the intramural NIH campus.

SELECTION OF A MENTOR

Prior to a fellow's arrival on campus, the Director of the CRTP helps refine research interests and narrow the range of topics that an individual may pursue over the course of this 12-month program. The director assigns each fellow a tutor, who is a senior physician-scientist on campus. The tutor works with the fellow, upon his or her arrival, to identify suitable mentors and laboratories within the fellow's chosen area of interest. Fellows then meet with possible mentors, make a selection in consultation with the tutor and program director, and plan an individualized research program combining clinical protocols and relevant laboratory studies. Students and mentors meet regularly to chart progress, plot investigational strategies, and discuss careers in biomedical research.

"EVEN MORE THAN THE CHANCE TO WORK IN ANY LAB AT THE NIH, OR THE YEAR SPENT IN A GREAT CITY, THE HIGHEST POINT OF MY YEAR HAS BEEN THE OTHER CRTP FELLOWS.

WITHOUT A DOUBT I HAVE LEARNED MORE FROM MY FRIENDS IN THIS PROGRAM ABOUT SCIENCE AND MEDICINE THAN I EVER ANTICIPATED. I KNOW THAT I WILL BE IN CLOSE CONTACT WITH THESE PEOPLE THROUGHOUT MY CAREER, AS I WILL CERTAINLY CONTINUE TO BENEFIT FROM THEIR EXPERTISE AND ADVICE; AND HOPEFULLY, I CAN DO THE SAME FOR THEM."

SARAH MATTESON
Medical College of Georgia

Learning—and living—clinical research.

"IN CRTP JOURNAL CLUBS I DEVELOPED MY ABILITY TO EVALUATE CLINICAL RESEARCH LITERATURE CRITICALLY. I'VE LEARNED HOW TO DESIGN MY OWN STUDIES, TO ENSURE THEY ARE RIGOROUS AND MEANINGFUL."

NATALIE DAILEY (right)
Harvard Medical School
and
DR. RAPHAELA GOLDBACH-MANSKY

"ONE OF MY PROUDEST ACHIEVEMENTS AT NIH HAS BEEN HELPING CRTP GET ITS START AND WATCHING IT GROW. THIS PROGRAM HAS FULFILLED THE GOAL OF A GROUP OF CLINICIAN-SCIENTISTS WHO SAW THE NECESSITY OF CREATING THIS OPPORTUNITY FOR MEDICAL STUDENTS TO BECOME INVOLVED IN CLINICAL RESEARCH EARLY IN THEIR CAREERS."

MICHAEL M. GOTTESMAN, M.D.
Deputy Director for Intramural Research, NIH

SEMINAR AND JOURNAL CLUB SERIES

Twice a month, CRTP fellows meet with the director of the program, mentors, and tutors for small-group sessions. The textbook-based discussion covers didactic topics related to principles of clinical research. Fellows lead this seminar and journal club, focusing on manuscripts from the contemporary medical literature, which emphasize these principles. These evening gatherings, over an informal meal, are the heart of the CRTP program: they create an opportunity for lively discussion and pursuit of a single topic in great depth. Fellows find that these sessions create a good balance with the more formal, didactic components of the program. CRTP fellows may also join the students in the Howard Hughes Medical Institute (HHMI) scholars program for their regular lecture series. Talks given by HHMI and NIH investigators are followed by dinner and informal discussions on the speaker's educational background, career path, and particular research interests.

INTRODUCTION TO THE PRINCIPLES AND PRACTICE OF CLINICAL RESEARCH (IPPCR) COURSE

Each IPPCR lecture is offered for one hour, two evenings a week, over a four-month period. Established in 1995, the course introduces a multitude of ethical, legal, scientific, regulatory, and biostatistical issues in clinical research. CRTP fellows attend the lectures, which complement the discussion at the seminar and journal club sessions.

Objectives of IPPCR are: ■ To familiarize fellows with the basic epidemiologic methods involved in clinical research ■ To discuss the principles involved in the ethics of clinical research, the legal issues involved in clinical research, and the regulations involved in human subjects research, including the role of Internal Review Boards (IRBs) in clinical research ■ To familiarize fellows with the principles and issues involved in monitoring patient-oriented research, including regulatory requirements and quality assurance ■ To discuss the infrastructure required in performing clinical research and have an understanding of the steps involved in developing and funding research studies

YEAR-END PRESENTATIONS

In May of each year, CRTP fellows give formal oral presentations on their clinical research in a special three-day event for tutors, mentors, and medical and scientific members of the NIH community. In addition, CRTP fellows present their clinical research in poster format following a Wednesday Afternoon Lecture—the premier educational series on campus.

ADDITIONAL TRAINING

CRTP fellows can partake of the NIH's lively intellectual community, as well: The Wednesday Afternoon Lecture Series draws top scientists and Nobel Prize winners to campus from around the world. Clinical Center Grand Rounds address a broad range of clinical research topics by intramural scientists each week. Fellows may also attend meetings and activities of NIH inter-institute interest groups, assemblies of scientists with common research interests. These groups are divided into broad, process-oriented parent groups and smaller, more focused groups centered on particular research models, subjects, or techniques.

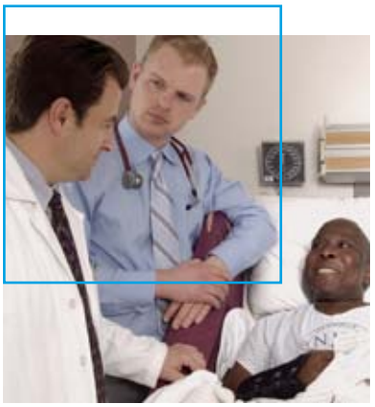
Formal courses are offered on campus by the Foundation for Advanced Education in the Sciences, and a number of CRTP fellows attend these classes, most of which are offered in the evenings. Examples include courses in statistics, biotechnology, and immunology. The NIH Clinical Center has additional training opportunities, as well: Principles of Clinical Pharmacology covers what researchers need to know about the clinical pharmacologic aspects of drug development and use. The Ethical and Regulatory Aspects of Clinical Research course is an overview of ethical and regulatory issues in clinical research, designed to provide attendees with the skills to analyze ethical issues confronted in clinical research, and to enable researchers to design protocols that conform to prevailing ethical standards.

"Although I knew I would have an amazing experience at the NIH, my time here has truly exceeded anything I could have imagined. Intellectually, this has been the most stimulating year of my life. I would strongly recommend that every medical student consider this great opportunity."

HARI NADIMINTI
University of Miami School of Medicine

"I was able to see basic science research translated on the wards each week during rounds. It was simply amazing. . . ."

PORCIA BRADFORD
Duke University School of Medicine



"THE LABORATORIES AT NIH ARE COLLEGIAL AND SUPPORTIVE ENVIRONMENTS: OUR MENTORS AT NIH ARE LEADERS IN THEIR FIELDS AND YET DOWN-TO-EARTH."

CHRISTIAN HUNTER, PH.D. (right)
Loma Linda University School of Medicine
and **DR. MARK GLADWIN**

"I CAN THINK OF NO BETTER INVESTMENT THAN TRAINING MEDICAL STUDENTS IN THE PRINCIPLES AND PRACTICE OF CLINICAL RESEARCH. WE HAVE DEDICATED CLINICIAN–SCIENTISTS AS MENTORS TO OUR CRTP FELLOWS, INDIVIDUALS WHO ARE MAKING GROUNDBREAKING DISCOVERIES AND MOVING SCIENTIFIC KNOWLEDGE FROM THE BENCH TO THE BEDSIDE."

JOHN I. GALLIN, M.D.
Director, NIH Clinical Center

THE WASHINGTON MONUMENT
Washington, DC

Mentors to lead you where you want to go.

ELIGIBILITY

1. This program is intended for medical and dental students. Candidates must currently be enrolled in a medical school accredited by the Liaison Committee on Medical Education (LCME), a dental school that is accredited by the Commission on Dental Accreditation, or an osteopathic school that is accredited by the American Association of Colleges of Osteopathic Medicine (AACOM).
2. Candidates in M.D./Ph.D. programs are eligible to apply.
3. Candidates must have completed a year of clinical rotations prior to starting the program.
4. Candidates must be U.S. citizens or permanent residents.

APPLICATION PROCESS

Applications for CRTP are submitted on-line through the NIH Office of Intramural Training and Education website, which is www.training.nih.gov/crtp. Applications are submitted in early fall for a January 15th deadline. Requirements are:

- A cover letter, including a description of research interests and goals (although prior research experience is not a requirement of CRTP, enthusiasm for and commitment to the objectives of clinical research are highly desirable)
- A curriculum vitae
- Three letters of recommendation, including one from the Office of the Dean authorizing a student's participation in CRTP
- Medical or dental school grades

The web site also features the research projects of former CRTP participants, alumni listings, and Frequently Asked Questions.

SELECTION PROCESS

Following a review of all applications, the Board of Tutors for CRTP selects a number of students to be interviewed. Interviews are usually held in March. Decisions are normally communicated to successful candidates within two to three weeks of the interviews. The program begins in July or August, depending on the students' rotation schedules at their home schools. CRTP class size was expanded in 2004 to accommodate up to 30 student-fellows per year.

ACCOMMODATIONS

CRTP is a residential program, and all participants are expected to live in our assigned residential housing. Fellows live adjacent to campus in furnished apartments in Bethesda. Two-bedroom, two-bath apartments are leased for fellows, with a few one-bedroom apartments for couples. Buildings are within walking distance of the center of campus.

THE DC AREA

"Work is hard. Distractions are plentiful. And time is short." – ADAM HOCHSCHILD

"He who cannot rest, cannot work. . . ." – HARRY EMERSON FOSDICK

The national capitol area offers much in the way of entertainment and relaxation. You can spend free time visiting the museums of the Smithsonian Institute, attending performances at the Kennedy Center, exploring battlefields of the American Civil War, cycling or hiking along the C&O Canal's towpath, sailing the Chesapeake Bay, or sitting in on Senate hearings. Bethesda itself is home to some 300 restaurants. The location of the NIH on the Metro subway line means that you can be downtown in 20 to 30 minutes.

Letter from the Director

Dear Medical and Dental Students:

Since its inception in 1997, the Clinical Research Training Program (CRTP) has continued to grow and evolve, and we have introduced many exciting modifications. In 2004 CRTP doubled in size — growing from 15 to 30 fellows, thanks to the support of our NIH Director, Dr. Elias Zerhouni and the NIH Roadmap initiative. The Roadmap is an innovative approach to accelerate fundamental biomedical discovery and translate that knowledge into effective prevention strategies and new treatments. The initiatives funded under the NIH Roadmap address critical roadblocks and knowledge gaps that constrain rapid progress in biomedical research and synergize the work of many NIH Institutes and Centers, representing a unique effort of the NIH as a whole. Thus, 30 promising medical and dental students are able to benefit from the opportunity to learn about clinical research here in Bethesda, Maryland.

As program director since 2000, I have developed a format for our seminar and journal club series, which uses a core text in clinical research, along with supplemental information from the contemporary medical literature. Specifically, CRTP fellows lead a discussion of an assigned chapter utilizing slides, handouts, and other teaching aids. Clinical research principles are emphasized. The CRTP fellows also select one or two current journal articles, and they are used in an interactive session to illustrate the research principles in a practical manner.

Another unique component of CRTP is clinical teaching rounds, which takes capitalizes on the rich patient population at the NIH Clinical Center. These rounds are typically held every other week. During this teaching exercise, a patient's medical history is presented; the group examines the patient, with emphasis placed on pertinent physical findings; and the principal investigator of the clinical research protocol in which the patient is enrolled talks to the group about the patient's underlying disease as well as the details of the protocol. Using this format, the CRTP fellows get to interact with patients who can also provide their own perspectives on clinical research, based on their involvement in a clinical trial. The clinical teaching rounds are held in the NIH Clinical Center. The new NIH hospital, called the Mark O. Hatfield Clinical Research Center, opened in early 2005 and has become home to new inpatient units, day hospitals, and research laboratories.

Your year at the NIH, regardless of which research projects you pursue, will provide you with a deep understanding of the principles and practice of—and people involved in—clinical research.

These program features have been introduced with the support and encouragement of the fellows themselves. Your year at the NIH, regardless of which research projects you pursue, will provide you with a deep understanding of the principles and practice of — and people involved in — clinical research. This is an experience not replicated elsewhere. The CRTP fellows, tutors, staff, and I look forward to meeting you during the interviews for this program and to working with you during your year at the NIH. I have observed the camaraderie that develops among our fellows, the enduring friendships that have grown out of their participation in CRTP, and invite you to consider becoming a part of this very special clinical research experience. I promise that it will be a life changing and career-enhancing experience.

Sincerely,

Frederick P. Ognibene, M.D.
Director, CRTP

Academic Program

"Getting Started: The Anatomy and Physiology of Clinical Research"

"Conceiving the Research Question"

"Choosing the Study Subjects: Specification, Sampling, and Recruitment"

"Planning the Measurements: Precision and Accuracy"

"Getting Ready to Estimate Sample Size: Hypotheses and Underlying Principles"

"Estimating Sample Size and Power: Applications and Examples"

"Designing a Cohort Study"

"Designing Cross-sectional and Case-control Studies"

"Enhancing Causal Inference in Observational Studies"

"Designing a Randomized Blinded Trial"

"Alternative Trial Designs and Implementation Issues"

"Designing Studies of Medical Tests"

"Utilizing Existing Databases"

"Addressing Ethical Issues"

"Designing Questionnaires and Interviews"

"Data Management"

"Implementing the Study and Quality Control"

"Community and International Studies"

"Writing and Funding a Research Proposal"

SCIENTIFIC PRESENTATIONS

Annual oral presentations at NIH end-of-year forum

Poster presentations at Pfizer Inc

Poster presentations as part of Wednesday Afternoon Lecture Series

CRTP FELLOWS' RESEARCH TOPICS, 2006 – 2007

Anti-CD22 Immunotoxins in Combination with Chemotherapy for Pediatric Acute Lymphoblastic Leukemia (ALL)

Oxidant Stress and Vascular Function in Sickle Cell Disease

Expression of a Novel Tumor Antigen, CT-RCC, in Renal Cell Carcinoma Histologic Subtypes

p53 Regulation of Exercise Capacity and Skeletal Muscle Metabolism

Genetic Analysis of Familial Keloids

The Accuracy of Hemoglobin A1c to Predict Glycemia in HIV-positive Patients with Diabetes or Hyperglycemia

PST-PIP1 Mutants Affecting FasL Localization—Investigating a Novel Pathway in Pyogenic Arthritis, Pyoderma Gangrenosum, and Acne (PAPA) Syndrome and Autoimmune Lymphoproliferative Syndrome (ALPS)

Serum Proteomics and Ovarian Cancer

A Cross-sectional Study of Spinal Bulbar Muscular Atrophy (SBMA): A Review of the Preliminary Data

Imaging Characteristics of Diffuse Intrinsic Pontine Glioma After Radiation Therapy

Molecular Analysis of Proliferative and Malignant Ocular Pathologies: Clusterin Expression in Diabetic Retinopathy and von Hippel-Lindau-associated Retinal Hemangioblastomas

A Proteomic Approach to the Finding of Therapeutic Targets for Gliomas

A Model of Transient Endothelial Dysfunction

CD4+ T Lymphocyte Dysregulation in Food Allergy and Eosinophilic Gastroenteritis

Circulating Nucleic Acids as Tumor Markers

Differential Gene Expression in Large Versus Small Renal Cell Carcinomas in von Hippel-Lindau Patients

Exploring the Safety and the Anti-tumor Effects of Escalating Doses of Adoptively Infused ex vivo Expanded Autologous Natural Killer (NK) Cells Against Metastatic Cancers Sensitized to NK-TRAIL Cytotoxicity with Bortezomib

Comparison of Bone Mineral Density in Children and Adults with Hypoparathyroidism

A SIRT3 / FOXO3a / MnSOD Signaling Model for Mitochondrial Superoxide Levels

Enhancement of AdVgTRAIL Gene Therapy Using Pulsed High Intensity Focused Ultrasound (HIFU) in a Human Esophageal Carcinoma Model

Features of Both Xeroderma Pigmentosum and Trichothiodystrophy Presenting in Patients with Mutations in the XPD Gene

Processing of Reward and Punishment in Pediatric Bipolar Disorder and Severe Mood Dysregulation

A Pilot Study of Tumor-specific Peptide Vaccination and Immune Restoration Following Lymphodepleting Cytotoxic Therapy in Patients with High Risk Pediatric Sarcomas

The Activation and Inhibition of NF-kB in Head and Neck Squamous Cell Carcinoma

Evaluation of the Cytotoxic Effect of Recombinant Hexameric FasL Protein (MegaFasL) on Cultured Thoracic Cancers With Emphasis on Malignant Pleural Mesothelioma

Effects of Neurokinin-1 Receptor Inhibition on Pancreatic Cancer Growth

The Potential Role of Cell Signaling and Mitochondrial-associated Genes in Age-related Macular Degeneration (AMD) Pathogenesis

The Search for Unique Cell Surface Markers that Enrich for Squamous Cell Carcinoma Stem Cells

Effect of Antiretroviral Therapy on HIV-specific CD8+ T Cell Function

Experimental Evaluation of Coronary Collateral Circulation in a Canine Model

Fellows and Alumni

2007 – 2008

Monica D. Agarwal
Boston University School of Medicine

Andrew M. Baschnagel
University at Buffalo State University of New York School of Medicine & Biomedical Sciences

Aaron P. Brown
University of Utah School of Medicine

Matthew S. Brown
Texas A&M Health Science Center College of Medicine

Ariel C. Bulua
Mount Sinai School of Medicine of New York University

Monica B. Constantinescu
David Geffen School of Medicine at UCLA

James N. Cooper
University of California San Diego School of Medicine

Sharifeh Farasat
Johns Hopkins University School of Medicine

Bryan L. Gammon
University of Texas Southwestern Medical Center at Dallas Southwestern Medical School

Jeffrey P. Gordon
University of Pennsylvania School of Medicine

Daniel W. Groves
Duke University School of Medicine

Tiffany R. Hodges
Duke University School of Medicine

Kiranpreet Khurana
UMDNJ-Robert Wood Johnson Medical School

Benjamin D. Korman
Ohio State University College of Medicine

Megan L. Krajewski
University of Michigan Medical School

Philip I. Lee
University of Washington School of Medicine

Nick W. Liu
Georgetown University School of Medicine

Priya Mahindra
State University of New York Downstate Medical Center College of Medicine

Jason A. McKellop
University of Michigan Medical School

Abimbola A. Obafemi
UMDNJ–New Jersey Medical School

Daniel S. Ong
Duke University School of Medicine

Babak J. Orandi
University of Michigan Medical School

Asha R. Patel
University of Miami Leonard M. Miller School of Medicine

Krish Patel
Duke University School of Medicine

Melissa H. Rooney
University of Pennsylvania School of Medicine

Melody M. Smith
University of Texas Southwestern Medical Center at Dallas Southwestern Medical School

Michael Su
New York University School of Medicine

Erick Tarula
Charles R. Drew University of Medicine and Science/David Geffen School of Medicine at UCLA

Todd A. Theman
Harvard Medical School

Gregory A. Walker
University of Arizona College of Medicine

2006 – 2007

Yachna Ahuja
4th year, Case Western Reserve University School of Medicine

Candice J. Bereal
4th year, David Geffen School of Medicine at UCLA

Elizabeth S. Burney
4th year, Duke University School of Medicine

Jeong W. Choi
4th year, State University of New York Downstate Medical Center College of Medicine

Jason A. Clark
4th year, Duke University School of Medicine

Dana D. Crum
4th year, UMDNJ–Robert Wood Johnson Medical School

Andrew P. Demidowich
4th year, UMDNJ–Robert Wood Johnson Medical School

Amit S. Dhamoon, M.D., Ph.D.
Massachusetts General Hospital (Internal Medicine);
M.D., State University of New York (SUNY) Upstate Medical University College of Medicine

Brandi K. Freeman
4th year, Baylor College of Medicine

Robert M. Hayward
4th year, Duke University School of Medicine

James E. Head
4th year, Duke University School of Medicine

Jeffrey J. Helgager
4th year, Duke University School of Medicine

Joshua J. Joseph*
Boston University School of Medicine

Joohee Lee
4th year, UMDNJ–New Jersey Medical School

Anna O. Likhacheva
4th year, University of Arizona School of Medicine

Jack J. Liu
4th year, David Geffen School of Medicine at UCLA

Kit Lu
4th year, Florida State University College of Medicine

Janay E. Mckie
4th year, Duke University School of Medicine

Mark V. Mishra
4th year, University of Cincinnati College of Medicine

Pretesh R. Patel
4th year, Duke University School of Medicine

Tara Rao
4th year, New York University School of Medicine

Geoffrey M. Rau
4th year, Duke University School of Medicine

Eunice H. Rhee
4th year, UMDNJ–Robert Wood Johnson Medical School

Kunal Saigal
4th year, University of Miami Leonard M. Miller School of Medicine

Thai Lan N. Tran
4th year, University of Vermont School of Medicine

Keli M. Turner
4th year, Vanderbilt University School of Medicine

Amit V. Vora
4th year, UMDNJ–Robert Wood Johnson Medical School

Jennifer A. Warner
4th year, Johns Hopkins University School of Medicine

Kristin A. Weeks
4th year, University of Kentucky College of Medicine

Omair Yousuf
4th year, University of Missouri–Kansas City School of Medicine

2005 – 2006

Ezinma Achebe, M.D., M.P.H.
University of Maryland Medical Center (Internal Medicine);
M.D., UMDNJ–Robert Wood Johnson Medical School

Mehrdad Alemozaffar, M.D.
Brigham and Women's Hospital/Harvard Medical School (Urology);
M.D., David Geffen School of Medicine at UCLA

Clint T. Allen, M.D.
Washington University/Barnes Jewish Hospital/St. Louis Children's Hospital Consortium (Otolaryngology);
M.D., Texas A&M University System Health Science Center College of Medicine

Elizabeth M. Azzato, M.P.H.**
Duke University School of Medicine

Adam M. Berg, M.D.
Yale/New Haven Medical Center (Internal Medicine);
M.D., George Washington University School of Medicine and Health Sciences

Lan Chang, M.D.
Preliminary Year, Internal Medicine, Albert Einstein Medical Center;
Duke University Hospital (Ophthalmology);
M.D., University of Michigan Medical School

Joshua G. Cohen, M.D.
University of California, San Francisco, School of Medicine (Obstetrics and Gynecology);
M.D., Northwestern University, Feinberg School of Medicine

Seth A. Cohen, M.D.
Preliminary Year, General Surgery, University of California, San Francisco, School of Medicine;
M.D., Northwestern University, Feinberg School of Medicine

Obinna C. Emechebe-Kennedy,M.D., Pharm.D.
University of Illinois College of Medicine at Chicago (Neurological Surgery);
M.D., University of Illinois–Chicago School of Medicine

Abby F. Fleisch, M.D.
Children's Hospital/Boston Medical Center (Pediatrics);
M.D., Northwestern University, Feinberg School of Medicine

Charles F. Haines, M.D.
Johns Hopkins University (Internal Medicine);
M.D., Duke University School of Medicine

Elizabeth S. Hart, M.D.
Case Western Reserve University/University Hospitals of Cleveland (Pediatrics);
M.D., University of Pennsylvania School of Medicine

Lynn Huang, M.D., M.P.H.
Preliminary Year, Stamford Hospital–Columbia University;
New York Medical College at St. Vincent's Hospital and Medical Center (Ophthalmology);
M.D., David Geffen School of Medicine at UCLA

Frank S. Hwang, M.D.
Preliminary Year, Internal Medicine, St. Luke's–Roosevelt Hospital;
University of Wisconsin Hospital and Clinics (Ophthalmology);
M.D., Mount Sinai School of Medicine

John Josephson, M.D.
Preliminary Year, Internal Medicine, Georgetown University Hospital/Washington Hospital Center;
Georgetown University Hospital/Washington Hospital Center (Ophthalmology);
M.D., UMDNJ–Robert Wood Johnson Medical School

Lyndon B. Lee, M.D.
Preliminary Year, Internal Medicine, Baptist Health System;
Emory University Hospital (Ophthalmology);
M.D., University of Alabama School of Medicine

Jennifer C. Ling, M.D.
California Pacific Medical Center (Internal Medicine);
M.D., Ohio State University College of Medicine

Margaret F. Lippincott, M.D.
Beth Israel Deaconess Medical Center (Internal Medicine);
M.D., Duke University School of Medicine

Gerhard S. Mundinger, M.D.
Johns Hopkins University (Plastic Surgery);
M.D., Johns Hopkins University School of Medicine

Madjimbaye C. Namde, M.D.
University Hospital/University of Cincinnati College of Medicine (Emergency Medicine);
M.D., Duke University School of Medicine

Veronique R. Nussenblatt, , M.D., M.H.S.
Johns Hopkins University (Internal Medicine);
M.D., University of Maryland School of Medicine

Alison R. Rager, M.D.
University of Pennsylvania (Internal Medicine);
M.D., Duke University School of Medicine

Richard A. Robison, M.D.
University of Southern California Medical Center (Neurological Surgery);
M.D., Washington University School of Medicine

Ritchie O. Rosso, M.D.
University of Miami Leonard M. Miller School of Medicine/Jackson Memorial Hospital (Dermatology);
M.D., University of Virginia School of Medicine

Shailen S. Sehgal, M.D.
University of Pennsylvania (Urology);
M.D., Joan & Sanford I. Weill Medical College of Cornell University

Bryan J. Traughber*
4th year, David Geffen School of Medicine at UCLA

Amy R. Tso*
4th year, David Geffen School of Medicine at UCLA

Ashaunta R. Tumblin, M.D.
Baylor College of Medicine (Pediatrics);
M.D., Harvard Medical School

Matthew W. Wade, M.D.
Preliminary Year, Internal Medicine, University of Utah;
University of California (Irvine) Medical Center (Ophthalmology);
M.D., George Washington University School of Medicine and Health Sciences

Tony J. Wang, M.D.
New York Presbyterian Hospital (Columbia Campus) (Radiation Oncology);
M.D., University of Missouri–Kansas City School of Medicine

2004 – 2005

Robert D. Allison, M.D., M.P.H.
Clinical Investigator, Department of Transfusion Medicine, NIH Clinical Center;
M.D., Florida State University College of Medicine

Priya Batra, M.D.
New York University School of Medicine (Dermatology);
M.D., Duke University School of Medicine

Ebony A. Boyce, M.D., M.P.H.
Brigham and Women's Hospital (Obstetrics and Gynecology);
M.D., Duke University School of Medicine

Scott W. Canna, M.D.
University of Colorado (Pediatrics);
M.D., George Washington University School of Medicine and Health Sciences

Mailan M. Cao, M.D.
University of California, Los Angeles Medical Center (Radiology);
M.D., David Geffen School of Medicine at UCLA

Carolee M. Cutler, M.D.
University of Utah (Plastic Surgery);
M.D., University of Utah School of Medicine

Arpi Doshi, M.D.
University of Pennsylvania Health System (Radiation Oncology);
M.D., University of Michigan Medical School

Prateek C. Gandiga, M.D.
Washington University/Barnes Jewish Hospital/St. Louis Children's Hospital
Consortium (Internal Medicine);
M.D., UMDNJ–Robert Wood Johnson Medical School

Nabeel Hamoui, M.D.
McGaw Medical Center of Northwestern University (Urology/General Surgery);
M.D., Duke University School of Medicine

Rebecca E. Hommer, M.D.
Yale-New Haven Medical Center (Integrated Child, Adolescent and Adult Psychiatry);
M.D., University of Pennsylvania School of Medicine

Samer H. Jaber, M.D.
University of Rochester (Dermatology);
M.D., Vanderbilt University School of Medicine

Edward W. Jung, M.D.
New York University School of Medicine (Radiology);
M.D., Brown Medical School

Stefan S. Kachala, M.D.
New York–Presbyterian Hospital (Cornell) (General Surgery);
M.D., UMDNJ–Robert Wood Johnson Medical School

Chris E. Keh, M.D.
University of Chicago Hospitals (Internal Medicine);
M.D., University of Illinois College of Medicine

Richard D. Kim, M.D.
University of Washington (Internal Medicine);
M.D., University of California, San Francisco School of Medicine

Arash Koochek, M.D., M.P.H.
Yale–New Haven Medical Center (Dermatology);
M.D., University of Vermont College of Medicine

Meghan S. Liel, M.D.
Oregon Health & Science University (Internal Medicine);
M.D., Duke University School of Medicine

Elaina E. Lin, M.D.
Johns Hopkins University (Anesthesiology);
M.D., Johns Hopkins University School of Medicine

Brieanne V. Midura, M.D.
Children's Hospital/Boston Medical Center (Pediatrics);
M.D., George Washington University School of Medicine and Health Sciences

Douglas B. Mogul, M.D.
Stanford University (Pediatrics);
M.D., Albert Einstein College of Medicine of Yeshiva University

Stacy D. O'Connor, M.D.
University of Wisconsin (Radiology);
M.D., Mount Sinai School of Medicine of New York University

Sinae T. Park, M.D.
UMDNJ–Robert Wood Johnson Medical School (General Surgery);
M.D., Columbia University College of Physicians and Surgeons

Candace Y. Parker, M.D.
University of Pennsylvania Health System (Obstetrics and Gynecology);
M.D., Wake Forest University School of Medicine

Tien Peng, M.D.
New York–Presbyterian Hospital (Columbia) (Internal Medicine);
M.D., Johns Hopkins University School of Medicine

Julie M. Rosenthal, M.D.
Wills Eye Hospital (Ophthalmology);
M.D., University of Pennsylvania School of Medicine

Dave A. Roy, M.D.
University of Texas Southwestern Medical School Program; (Diagnostic Radiology);
M.D., University of Alabama School of Medicine

Oscar K. Serrano, M.D.
Johns Hopkins University (General Surgery);
M.D., Stanford University School of Medicine

Erica D. Taylor, M.D.
University of Virginia (Orthopedic Surgery);
M.D., Duke University School of Medicine

Rohan C. Wijewickrama, M.D.
SUNY–Buffalo Medical Center (Otolaryngology);
M.D., Wake Forest University School of Medicine

Susan Yuditskaya, M.D.
New York–Presbyterian Hospital (Columbia) (Anesthesiology);
M.D., University of Pittsburgh School of Medicine

2003 – 2004

Porcia T. Bradford, M.D.
National Institutes of Health (NIH)/National Cancer Institute (NCI) (Cancer Epidemiology and Genetics Fellowship);
Vanderbilt University Medical Center (General Surgery);
M.D., Duke University School of Medicine

Cesar M. Castro, M.D.
University of California, San Francisco Medical Center (Internal Medicine);
M.D., University of California, San Francisco School of Medicine

Angela A. Chang, M.D.
University of California, San Diego Medical Center (Otolaryngology);
M.D., David Geffen School of Medicine at UCLA

Natalie J. Dailey, M.D.
Baylor College of Medicine (Medicine–Pediatrics);
M.D., Harvard Medical School

Joshua S. Easter, M.D.
Beth Israel Deaconess Medical Center (Emergency Medicine);
M.D., Duke University School of Medicine

Tristan Gorrindo, M.D.
Massachusetts General Hospital (Pediatrics and Adult/Child Psychiatry);
M.D., Vanderbilt University School of Medicine

Christian J. Hunter, M.D., Ph. D.
Brigham and Women's Hospital (Internal Medicine);
M.D., Loma Linda University School of Medicine

Doris G. Leung, M.D.
Stanford University Hospital (Neurology);
M.D., Duke University School of Medicine

Sarah K. Matteson, M.D.
University of Pennsylvania Health System (Neurology);
M.D., Medical College of Georgia

Hari Nadiminti, M.D.
New York–Presbyterian Hospital (Cornell) (Dermatology);
M.D., University of Miami Leonard M. Miller School of Medicine

Mark A. Naftanel, M.D.
University of Michigan Hospitals and Health Centers (Dermatology);
M.D., Duke University School of Medicine

Lauren M. Nentwich, M.D.
Boston Medical Center (Emergency Medicine);
M.D., Harvard Medical School

Anne-Caroline M. Garnier Norman, M.D., M.B.A.
Duke University Hospital (Emergency Medicine);
M.D., Duke University School of Medicine;

Timothy W. Vogel, M.D.
University of Iowa Hospitals and Clinics (Neurological Surgery);
M.D., Columbia University College of Physicians and Surgeons

Dana J. Wallace, M.D.
Duke University Medical Center (Ophthalmology);
M.D., Duke University School of Medicine

**Participated in CRTP for a second year*

***Participating in the NIH-Cambridge University Graduate Partnerships Program (GPP) after CRTP year*

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